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CORNHUSKER ECONOMICS

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Institute of Agriculture & Natural Resources
Department of Agricultural Economics
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Crop Revenue, Resource Contributions and Budgeted Rents

Market Report	Yr Ago	4 Wks Ago	4/21/06
<u>Livestock and Products,</u>			
<u>Weekly Average</u>			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight	\$93.73	\$86.29	\$82.86
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb	141.57	*	129.97
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb	115.50	*	105.47
Choice Boxed Beef, 600-750 lb. Carcass	157.84	142.22	142.28
Western Corn Belt Base Hog Price Carcass, Negotiated	70.08	53.43	59.61
Feeder Pigs, National Direct 45 lbs, FOB	63.87	53.94	51.86
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean	68.08	60.47	61.62
Slaughter Lambs, Ch. & Pr., 90-160 lbs., Shorn, Midwest	105.75	70.00	68.00
National Carcass Lamb Cutout, FOB	252.93	215.54	221.58
<u>Crops,</u>			
<u>Daily Spot Prices</u>			
Wheat, No. 1, H.W. Imperial, bu	2.99	3.58	3.97
Corn, No. 2, Yellow Omaha, bu	1.90	1.86	2.08
Soybeans, No. 1, Yellow Omaha, bu	6.21	5.33	5.34
Grain Sorghum, No. 2, Yellow Columbus, cwt	2.73	2.59	2.93
Oats, No. 2, Heavy Minneapolis, MN , bu	1.79	1.94	2.03
<u>Hay</u>			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton	117.50	130.00	130.00
Alfalfa, Large Rounds, Good Platte Valley, ton	62.50	65.00	65.00
Grass Hay, Large Rounds, Good Northeast Nebraska, ton	57.50	55.00	55.00
* No market.			

In an earlier newsletter (March 15, 2006) steps were outlined for arriving at a crop share and cash rent. It was 'argued' that establishing the productivity of the rental property is fundamental. Once the size of the pie is determined, it can then be divided between the resources used to produce the crop. As illustrated in the March 15th newsletter, failure to value the contributions so they add up to the expected revenue will misrepresent the actual value of the contributions.

In this article, we will explore the effect of projected revenue and who contributes what resources (costs) upon the budgeted cost share and cash rent.

Table 1 presents budgeted costs for producing continuous corn with a diesel powered center pivot. With a 240 bushel projected yield and a full corn base, the prices received the last 10 years would generate sufficient revenue (crop sales and farm program payments) to just cover the total costs budgeted in Table 1. Total costs can also be covered at lower yields with lower return to management and capital, as will be illustrated below. Costs are 2006 cost estimates where, for example, diesel fuel is budgeted at \$2.00 per gallon and nitrogen fertilizer at \$0.24 per pound of N.

The tenant contributions in Table 1 are budgeted based on the landlord providing the entire irrigation system, where the tenant and landlord share the irrigation fuel cost and all materials costs at the breakeven revenue share (where cost and revenue shares are equal). The result is the tenant would be providing 44.2 percent of the costs (the cost and revenue shares are rounded to 44 percent). Under a cash rent, the landlord would receive the amount budgeted for the land and irrigation system investment and repairs (assuming the landlord owns and maintains the irrigation system). The landlord's contribution under a cash rent is labeled in Table 1 as the Cash Rent Equivalent.

The results illustrated in Table 1 are expanded in Table 2 to consider several levels of productivity (yields) and various levels of irrigation system contributions by the tenant. For each 10 bushel drop in productivity, revenue drops \$23.00 based on the 10-year average \$2.30 per bushel. However, savings in nitrogen

Table 1. Example Budgeted Crop Shares for Irrigated Corn, Landlord Owning and Maintaining all of the Irrigation System

	\$/Acre	Tenant % Share	44% Tenant Share \$	Cash Rent Equivalent
Machinery & Irrigation System Fuel, Repairs and Depreciation Cost				
Machinery	39.05	100	\$39.05	
Irrigation Fuel	37.40	44	16.46	
Irrigation Repairs	5.86	0	0.00	\$5.86
Irrigation Depreciation	18.41	0	0.00	\$18.41
Materials & Services	277.21	44	121.97	
Labor & Management, Overheads	65.60	100	65.60	
Operating Interest	11.58	47	5.44	
Return on Investment				
Machinery	15.90	100	15.90	
Irrigation System	14.87	0	0.00	\$14.87
Land including Well	112.00	0	0.00	\$112.00
Total Costs	\$597.88	44.2%	\$264.42	\$151.14
Total Revenue	\$597.90	44%	\$263.08	
Sales				
Yield	240 bu	Price		
X \$2.30=				
Farm Program Payments (Corn base)				
% Base	Yield	\$/bu		
85% X 100%	X 120 bu	X 0.28 =	28.56	
85% X 100%	X 120 bu	X 0.17 =	17.34	
			\$597.90	

fertilizer, seed, hauling and drying are budgeted at about \$1.00 per bushel so that a 10-bushel lower yield results in a net drop in cash rent value (Cash Rent Equivalent) of \$13.00 per acre. This reduction in the landlord contribution is reflected in a crop share as a 2-3 percent drop in the landlord's cost share for each 10-bushel drop in productivity. Note that a drop of \$13.00 will be a smaller percentage drop at a 240 bushel yield than a 220 bushel yield.

Since farm program payments are budgeted at \$46.00 per acre, a parcel with no base would be roughly equivalent to a 35-bushel lower yield (\$46.00/acre divided by \$1.30/bu = 35 bushels/acre). Also, as shown in Table 2, who contributes the irrigation system components also affects the budgeted cash rent equivalent and the cost shares. Furnishing the power unit reflects a \$9.00 per acre contribution and both the power unit and pivot amounts to a total of \$25.00 per acre. At the revenue levels used in Table 2, the power unit would reflect a 3-4 percent share, and the pivot would reflect a 9-11 percent share.

The analysis above has addressed the question of how the crop share or rental rate should be adjusted given the productivity of the parcel and who is furnishing what. It has been the author's experience that the question is often asked the other way, e.g., we have a 50-50 share, who should pay for the herbicide? As suggested in our March 15th newsletter, there are reasons for one party furnishing something, for example, the landlord furnishing the irrigation pipe or pivot to better attract young tenants that may not be in a position to make that investment. But following what is common is not very helpful since there is in fact considerable variation in the way 50-50 shares are put together. A suggested alternative is to have each party furnish what is most logical or convenient and then determine the cost share or rent. Another example of what might be the most logical is to share seed and chemical at the same rate so that decisions on whether to substitute seed cost for chemical cost are on equal footing, e.g., the decision of whether to manage corn borer with Bt seed or chemical applications would be more

likely based on cost effectiveness if the cost shares of seed and insecticide are the same.

In summary, it is suggested here that crop shares and rents be based on the productivity of the parcel (including projected farm program payments) and the responsibility for the various inputs divided logically and conveniently between landlord and tenant, and then the revenue share (or cash rent) set equal to the resulting cost share (Cash Rent Equivalent).

Roger Selley, (402) 762-4401
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**Table 2. Budgeted Rental Rates, Continuous Corn,
Table 1 Cost Structure**

Projected Yield bu/ac	Tenant Contribution		Cash Rent Equivalent \$/ac
	Irrigation System	Cost Share %	
240	none	44	151
	Power	48	142
	P&P	57	117
230	none	47	138
	Power	50	129
	P&P	60	104
220	none	49	124
	Power	53	115
	P&P	64	90
210	none	52	111
	Power	56	102
	P&P	67	77

Note: P&P indicates the tenant is furnishing both the power unit and the pivot.